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UNITED STATES DEPARTMENT OF ENERGY

Meeting of the

NATIONAL PETROLEUM COUNCIL

Ballroom II

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9:00 a.m.

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P R O C E E D I N G S

CHAIRMAN COX: Good morning, ladies and gentlemen. Welcome to the 94th meeting of the National Petroleum Council. It's 9 o'clock so we will start

promptly on time. We're delighted you all could be here. *And we appreciate it, we will not call the roll and we will allow the speaker outside to speak as the official attendance of this meeting. If you did not check in, or came you do so before you leave.*

At the present time, I'd like to present those at the head table. On the far right is the Honorable J. Allen Wampler, Assistant Secretary for Fossil Energy; next to Allen is Pete Silas, Chairman of the NPC Committee on Establishing Petroleum Research Institute; to the far left is Marshall Nichols, and next to Marshall will be our guest *speakers* ~~speaker~~, Martha Hesse; and James Miller, who will be joining us shortly.

On my immediate right is the Hon. John S. Herrington -- and we're very pleased, Mr. Secretary, that you could be here. This is a Joint Committee with *they're your appointments* you and ~~your~~ departments and we appreciate your being here. We'd like to call on you to start the meeting, if we may.

Thanks, Ed.

SECRETARY HERRINGTON: ¹Before I start, I'd like to say that we have a number of new members here, and I'd like to identify them for the rest of you. I personally went over the resumes of these outstanding people with Ralph and Ed and I think they're a real addition to the

1 NPC. If I could ask the new members to stand as a
2 group, rather than read each one off so they can
3 identify themselves-- great. You can see ~~there's~~ *this is* an
4 impressive group.

5 (Applause)

6 SECRETARY HERRINGTON: It's a great pleasure to meet
7 with you again this year and it marks my fourth year of
8 association with the National Petroleum Council and
9 working with this distinguished group on behalf of
10 energy security and energy policy in the United States.
11 It's really been a privilege for me. Even though we've
12 been working under some difficult circumstances over the
13 past several years in pricing, I have to say, it's been
14 a pleasure knowing each and every one of you *that* I've had
15 the opportunity.
16

17 This is a fairly rough time in Washington
18 these days, you might sense that from coming in and
19 reading this morning's paper and others. One of the
20 gentlemen who does business in this town, went to see a
21 psychiatrist the other day, it got so bad and he said he *that*
22 had to get out of politics because he said to his
23 psychiatrist, after years, I've come to realize that I
24 really don't understand foreign affairs. *And it* ~~he~~ has just
25 dawned on me that I don't understand domestic affairs
either. In fact, to me, the economy is a foreign

1 language. To make matters worse, it wasn't until
2 yesterday that I found out that my ideas are not shared
3 by the American people.

4 *Well, the*
5 *and*
6 The psychiatrist looked puzzled and he says,
7 you're right, those are emotional statements and he
8 said, you have to get out of politics and you ought to
9 do it now. The fellow responded, that's the problem,
10 Doc, I can't, I'm the Democratic nominee for President.

11 (Laughter)

12 SECRETARY HERRINGTON: Since its creation in
13 1946, this Council has been an invaluable source of
14 information and advice on matters relating to petroleum
15 and the petroleum industry. The more than 200 reports
16 that you've prepared have provided successive
17 administrations as well as this one with balanced and
18 expert opinions on a wide range of important oil and gas
19 issues, and from the beginning, this Council has met its
20 responsibilities with skill, with dedication and with
21 vigor.

22 *National*
23 The Petroleum Council has also served as a
24 shining example of what I think is a special
25 characteristic that has made this country very
prosperous, and that's the volunteer spirit. During its
four decades, the Council's work on issues of national
importance has been funded by voluntary contributions

1 from the members and I want to commend you for this and
2 for the hard work and the tireless devotion that you've
3 shown towards the country. You deserve the thanks of
4 all Americans.

5 Your work has been especially critical in
6 light of the tremendous challenges which the energy
7 security and this industry has faced in the wake of what
8 I think all of us would characterize as dramatic price
9 volatility over the past 2-1/2 years.

10 As we assess the state of the domestic
11 petroleum industry today, we see a measure of progress
12 compared to a year ago and while the jury is still out,
13 there are signs the conditions in the industry are
14 stabilizing, at least in the short term, and although
15 ~~rig~~ ^{rig} counts have slide since the beginning of this year,
16 overall industry activity has picked up compared to June
17 of last year, but it remains low by historical
18 standards.

19 Earnings for many companies rose last year
20 from the levels of '86, and earnings in general,
21 continue to rise for many. Drilling costs are down,
22 capital expenditures are going up, with reports ^{that} the
23 industry may spend an additional 10 percent this year.
24 ~~Finally~~ ^{And finally} production losses, by our calculations appear
25 to have leveled off.

Now a

1 ~~se~~ number of you are thinking to yourself,
 2 Herrington's looking for the pony. You remember the
 3 President's favorite story he told for years while he
 4 was running since 1966, about the farmer with the two
 5 sons and one was an eternal optimist and one was a
 6 eternal pessimistic. *And he* ~~He~~ was worried about this because
 7 it was causing problems in his family. He put them with
 8 a psychiatrist who recommended a solution. He said,
 9 take the son that is an optimist and place him in a room
 10 with a large amount of horse manure and take the son who
 11 is a pessimist and put him in a room filled with toys
 12 and he will see the good things and change. *And they* ~~They~~ tried
 13 this experiment and later on, they went *they* ~~and~~ looked
 14 through the window into the room and the son who was a
 15 pessimist was sitting in the middle of all these toys
 16 and presents crying. *will* ~~They~~ opened the door and said,
 17 what's the matter? *will* ~~He~~ said, I have all these toys and
 18 someone's going to break them, and take them away and
 19 I'm going to lose them. I'm very depressed about it.

21 They went in the other room and the son who
 22 was put in the room with the horse manure was digging
 23 through it and throwing it in the air and they said,
 24 what are you doing? He says, I know there's a pony in
 25 here somewhere.

1 I think we have to look for some of the good
2 things that have taken place. Some recent trends are
3 positive and I recognize, and I think the government
4 should recognize that it will be a long time if ever
5 before the infrastructure of this industry is back to
6 where it was three or four years ago. That, of course,
7 is not the optimistic side.

8 A substantial part of the production and
9 service industries remain devastated and I don't think
10 you can argue against this particular point. Overall,
12 we have seen steep declines in the petroleum exploration
13 and development and in production since 1985. In only
14 the last three years, the country has lost a million
15 barrels a day in oil production by failing to replace
16 U.S. reserves. *And that* ~~that~~ should concern us and I think it
17 concerns everyone in this room.

18 At current prices and with ~~the~~ existing
19 uncertainty over these prices, conditions are not likely
20 to improve in any significant way anytime soon. Coupled
21 with a slight decline in production from a year ago, our
22 dependency on imports has risen 13 percent. Last year,
23 both consumption and oil imports reached their highest
24 level since 1980. If current trends persist, we could
25 be importing 50 percent of our oil by early 1990's and
as much as 60 percent by middle 1990's. *the*

Now there's

1 ~~There's~~ nothing magic about the 50 percent
2 level, although much is made of it in legislation that
3 is proposed, both the crisis in 1973 and the crisis in
4 1979 took place ^{at} import levels less than 50 percent.

5 The challenges confronting the petroleum
6 industry remain to be a cause for deep concern in my
7 estimation. It is clear that without additional
8 progress in revitalizing our domestic oil production,
9 America's future energy security will remain at risk.
10 The importance of oil and natural gas to the security
11 and economic vitality of this country is something that
12 the Administration has understood from the beginning,
13 and as we focus here today on where this industry is
14 going, I think it is important that we also look at
15 where we have been during the last eight years.

16 Almost immediately after he took office in
17 1980, the President in 1981 removed price and allocation
18 controls on oil. *And he's* ~~He's~~ followed that up by cutting
19 federal regulation of oil and gas market figures
20 wherever possible. Many people have pointed out to me
21 this helps only the majors as far as doing away with ERA
22 and settling some of the large cases we have had before
23 ERA, 12 years after a program that in my estimation was
24 extremely short-sighted, is still in existence.
25

1 We've cut the regulatory administration
2 amalgamation from 2,000 lawyers and regulators to a work
3 force under 200 today and I fully expect that particular
4 department will no longer exist at the end of the year.
5 The Administration has lifted government regulations on
6 federal lands that would have forced the capping of
7 stripper wells. We've lowered rents for oil and gas
8 leases on federal lands from \$125 to \$25 an acre; we've
9 put forward a five year plan for exploration rights
10 offshore. We've been able to persuade the Securities
12 and Exchange Commission to retain the full cost
13 accounting provisions that are vital to this nation's
14 independent petroleum producers.

15 We fought hard to keep needed oil and gas tax
16 incentives like the oil depletion allowance for
17 independents and allowing the expensing of intangible
18 drilling costs in the Tax Reform Bill and we won.

19 A year ago, the President sent a comprehensive
20 package of energy initiatives to the Congress containing
21 tax incentives to strengthen the petroleum industry. In
22 the past Congress, we backed the Oil and Gas Production
23 Revitalization Act that Senators Graham, ~~Nichols~~ *Nickles* and
24 McClure presented, we aligned with them.

25 This legislative package, I think, contained
 energy policy reforms that were designed to help the oil

1 and gas industry in a large way, like the elimination of
2 more than half a dozen unnecessary environmental
3 provisions on production ~~wastese~~ *waste.*

4 The President has ordered the Environmental
5 Protection Agency to review all of its environmental
6 regulations and to remove those that are unnecessary,
7 and that discourage the domestic oil exploration and
8 production. We've recently issued a Presidential
9 finding that would permit the export of Alaskan North
10 Slope natural gas to be exported to the Pacific rim
11 countries. *And the* ~~The~~ President will raise this particular
12 point in his meeting in the economic summit with Prime
13 Minister *Takeshita.* ~~DeGasta (ph)~~

14 ~~We think it is~~ reasonable to expect the
15 government of Japan to purchase 20 to 25 percent of LNG
16 requirements from the United States in the future.
17 We've taken the case for a freer energy market to
18 Congress. In back to back battles, we've successfully
19 fought off efforts to reverse the partial gas price
20 decontrol that took effect in 1985. We've worked hard
21 in every Congress for full price decontrol and for
22 comprehensive natural gas reform legislation.

23
24 We won a very long battle to repeal the Fuel
25 Use Act, restraints on natural gas use, and I might say
this is a piece of worthless legislation that we spent

1 hours fighting. Some of you may remember that the Fuel
2 Use Act was in effect for a long time and there were
3 several years of efforts to get it repealed.

4 The Energy Department, and I remember this
5 well, was routinely granting exemptions to the Fuel Use
6 Act so it had absolutely no effect whatsoever as a
7 legislative proposal, yet it became a very large cause
8 to get that repealed.

9 We were successful in repealing the
10 incremental pricing provisions of the Natural Gas Policy
12 Act. In addition, with our urging, the FERC eliminated
13 regulatory categories for old gas which has discouraged
14 production of our least expensive gas.

15 Dealing with Congress over the last four years
16 and for the eight years I've been in Washington has been
17 a puzzling drill, and been very difficult, and I'm sure
18 the stories that I could tell would be matched by
19 stories of your own from this audience. It reminds me
20 of the hunters that were hunting in the Maine woods and
21 they had killed their deer and they were taking it back
22 to the truck. They had grabbed this deer by the rear
23 legs and they were dragging it through the forest and
24 its antlers were catching on the trees and shrubs and
25 were digging into the ground and it was having
difficulty sliding along. They were working up a sweat

1 going back to the truck. They came upon the old trapper
 2 who said, gentlemen, you're doing this wrong, you should
 3 pull it by the antlers ^{then} and you will have none of this
 4 particular problem. Of course they went around and
 5 grabbed it by the antlers and it slid ^{easier} through the
 6 woods and didn't catch on the trees and barbs and the
 7 ground. ^{And one} ~~One~~ turned to the other ^{he} ~~and~~ said, this is much
 8 better, I think we're doing it right this time. The
 9 other one said, yes, I think it's much easier, I'm not
 10 sweating anymore. I have a problem with it. He said,
 12 what is the problem? He said, we're getting farther and
 13 farther away from the truck.

14 (Laughter)

15 SECRETARY HERRINGTON: Sometimes as we
 16 approach legislative solutions, we have this kind of
 17 problem.

18 I think one of the things that has happened
 19 recently that I think we can look forward to as having
 20 some impact is the strategic importance of natural gas
 21 to energy security. A few weeks ago, we announced the
 22 results of our comprehensive study of America's gas
 23 resource base. A number of you had a role in that.

24 The assessment was ^{commissioned} ~~commissioned~~ for several
 25 reasons. Foremost among them was the need to bring the
 nation's gas experts together to reach a consensus on

1 the extent of our natural gas resource base. The lack
2 of consumer confidence in gas supplies is one of the
3 main factors impeding a larger role for natural gas in
4 our estimation. Memories of the winter of late 1976 and
5 early 1977 still linger, even as we work on the Hill for
6 incentives to encourage the production of natural gas.

7 Unfortunately these shortages created the
8 lasting misimpression that natural gas is an unreliable
9 energy resource. This is an advance copy of the
10 assessment. It makes great reading. It hasn't got the
12 pretty cover on it yet, but for anyone who is interested
13 in natural gas and the future of natural gas, and what
14 we can do in the country will find this fascinating
15 reading.

16 Our assessment shows that there is a
17 technically recoverable gas resource base in the lower
18 48 of 1,059 trillion cubic feet of natural gas that we
19 know how to recover with existing technology. More than
20 half of the total gas resource we've evaluated was
21 judged economically recoverable, including finding costs
22 at less than \$3 per thousand cubic feet. *And* I think that's
23 an interesting figure.

24 Additional volumes of gas were judged
25 economically recoverable in a price range of \$3 to \$5
thousand per cubic feet. This means that at current consumption
^

1 levels, the nation has a 35 year supply of natural gas
 2 at costs of under \$3 an mcf. Of course in order to
 3 recover much of this resource, there has to be discovery
 4 and development, and I stress including new drilling
 5 activity.

6 *Now* I've had a lot of mail on this report and I
 7 think some of the gentlemen that have been involved in
 8 preparing it have also had a lot of mail. *And it's* ~~It's~~ run very
 9 pro in most cases, but it's cause for concern. I'm
 10 receiving a lot of letters from people in the industry
 12 who have been in the natural gas production business for
 13 a long time that don't believe the results in this
 14 report or say it is not credible to make these findings.

15 I refer them to page four and five that have a
 16 list of the 17 panelists that reads like a Who's Who of
 17 the experts in this country. One of them is with us
 18 this morning, William Fisher. *Bill, my thanks. Where are you?* I want to acknowledge the

19 work that you and the other *men* have done on this.
 20 *I don't know... all any of the other gentlemen in the audience today that worked*
 21 *on this report?* Bill has done an outstanding job as a Director of the

21 University of Texas at Austin, Bureau of Economic
 22 Geology in putting this report together. *And* I would commend
 23 this report to your reading.

24 It was done in cooperation with Argonne
 25 National Laboratory and under the sponsorship of the
 Department of Energy.

1 I think the estimates are conservative in many
2 respects. For example, we did not include Alaska's gas
3 resources; these immense supplies may well become
4 available as soon as economic means of transportation
5 are in place, but we did not feel it was fair to put
6 them in this report.

7 Also, existing technology was assumed for all
8 of the estimates. We did not take into account the
9 additional resources that improved technologies will
10 enable us to discover and recover as we proceed on this.
12 More advanced technology in my estimation will assure
13 abundant supplies for several generations.

14 While this gas is present and secure within
15 the borders of the United States, more wells will have
16 to be drilled if it is going to be available in the
17 future. The supplies are significant and this means
18 that natural gas, ^{can} and I think, must play a major role in
19 limiting our growing dependence on insecure imported
20 oil. The natural gas is good for energy security, good
21 for the environment, good for the family budget.

22 Yesterday, I had the opportunity to speak at
23 the AGA Conference that's taking place over at the
24 Shoreham where you have 4,000 gas people from around the
25 world gathered and a large Soviet delegation, I might
add. They have parked outside the natural gas bus, some

1 of you have seen it with the motor running and the bus
2 will be over at the Department of Energy tomorrow, if
3 you have an interest in seeing it sitting outside, but
4 as you look at the engine of the bus, the man who is
5 there giving you a guided tour of it will say, if you
6 have a handkerchief, give it to me, and you will give
7 him your linen handkerchief and he'll put it over the
8 tailpipe, and you'll say that's the end of the present
9 *that* my daughter gave me for Christmas. When he takes the
10 handkerchief away, there are no emissions, there is no
12 discoloration, there's no pollution coming out of the
13 engine. It offers a lot of possibilities for us in the
14 use of natural gas through methanol.

15 Natural gas illustrates the tremendous
16 potential and work that remains to be done to develop
17 our domestic petroleum resources. The fact is that
18 there remain many counterproductive regulatory
19 constraints on natural gas in the United States and I
20 think this situation is thwarting the contribution to
21 energy security, and I'd like to take up a couple of
22 these on what I think remains to be done in this area.

23 There's a misconception in the gas
24 industry, and also in the country, that the gas industry
25 is deregulated in this country. It's interesting to
note that in 1988 we are in our golden anniversary of

1 gas regulation in the United States -- 50 years. *Now it*
2 pointed out to me when I made that statement recently ~~he~~ was
3 that the gas industry was deregulated under President
4 Eisenhower and the Congress sent the bill to the White
5 House and because of perceived irregularities in the
6 process, he vetoed the bill and *of course* the gas industry stayed
7 regulated. *And that* ~~That~~ is true.

8 I think back, if he hadn't vetoed that bill,
9 where would we be today? There have been a lot of *gains*
10 in this area. By and large I think we can say, as we
11 look at the whole situation, that the gas industry
12 remains shackled by regulations. The history of
13 regulation of the natural gas industry shows that
14 regulation has failed the consumer, it's failed the
15 industry, and I think we can say it has failed energy
16 security also.

17
18 Price constraints on gas at the wellhead
19 discouraged exploration and development, and I think
20 ultimately led to the shortages of the 1970's. The
21 artificial market conditions that were created by the
22 Natural Gas Policy Act of 1978 contributed to the gas
23 bubble of the 1980's.

24 The solutions to this situation lie largely
25 with Congress and I think the Federal Energy Regulatory
Commission. As we have learned in other energy areas,

1 the solution is to regulate less, not more. Today's
2 economic and energy climate makes this particularly an
3 opportune time for Congress to consider complete gas
4 decontrol and transportation reform. It will be a
5 positive step that will help boost domestic production
6 and ultimately expand confidence in natural gas.
7 Together, deregulation and better information about gas
8 I think can help gas take its rightful place in the
9 energy mix of this country.

10 Another item on the agenda before Congress is
11 our effort to get the counterproductive Windfall Profits
12 Tax repealed. The government collected no revenues from
13 this tax last year nor the year before and our figures
14 show that the Windfall Profits Tax was a burden on the
15 industry of \$100 million a year just to administer it. I
16 have made the argument in front of Congress that it is
17 worse than that, that the \$100 million the industry
18 spends on administering the Windfall Profits Tax is
19 taken off the income tax return as a cost of doing
20 business, so it is a net loss to the U.S. Government.
21 It's a disincentive to exploration at precisely ^{the} ~~se~~ time
22 when we ought to be encouraging further investment.
23 Where do we stand on it?

24
25 It was attached to the Trade Bill as you saw.
The Trade Bill was vetoed by the President. The Trade

1 Bill that was sent to the President was a naked,
2 political animal that was intended to embarrass him
3 before a national election and in a blatantly political
4 atmosphere, and he vetoed it, and he should have vetoed
5 it. That veto is going to be voted on today. The
6 Windfall Profits Tax unfortunately was in that trade
7 bill but there were other things in there that you as
8 businessmen and women in the private sector of this
9 country would not support, and should not support. The
10 veto will be sustained today is my prediction. It will
11 be close; they need to turn three Republican Senators to
12 overturn the veto and I think that's going to be
13 difficult to do.

15 What happens next? I believe that the scene
16 is set for Congress to get a trade bill, in my personal
17 estimation. I believe that Congress wants a trade bill
18 despite all the rhetoric and politics you have seen. A
19 simplified trade bill is easy and I think it will take
20 place. You don't hear a lot of talk about it right now
21 because the sides are still jockeying for position, but
22 in my estimation, you will see a simplified trade bill
23 come back immediately and it will include windfall
24 profits tax, and that is despite what you're reading in
25 the paper.

1 So if we're lucky, and I think we've done our
2 homework on this, windfall profits will be out by the
3 end of the year.

4 As you know, repeal of this tax has become
5 political and I'm sorry to see that because it is as
6 worthless a piece of legislation as the Fuel Use Act. To
7 boost domestic production, it's also critical that
8 Congress allow what I call environmentally sound
9 exploration and development on federal lands, in
10 particular we need to explore the small, the promising
11 coastal plain of Alaska known as ~~Anwar~~ ^{ANWR} which ~~is~~ ^{has} become a
12 battle ground. ~~Anwar~~ ^{ANWR} is 18 million acres, the footprint
13 of oil exploration is approximately 12,000 acres. I
14 think largely through the efforts of companies like Arco
15 and others, we have proven that good environmental
16 policy on the Alaskan North Slope can exist side by side
17 with good environmental policy, and that they are
18 compatible.

19
20 We have estimated that the deposits in ~~Anwar~~ ^{ANWR}
21 are possibly larger than Prudhoe Bay, ~~and~~ could contain
22 between 5 and 30 billion barrels of oil and gas and as
23 much as 65 trillion cubic feet of gas. In light of our
24 energy situation today, I think it's imprudent to lock
25 away what is potentially the Alaskan experience as shown ^{to be --}
can be done compatibly with the environment. There are

1 some encouraging signs. I think one of them obviously
 2 is the Senate vote recently in favor of this
 3 exploration; another would be the New York Times
 4 editorial last week, lead editorial saying that *ANWR*
 5 was the right thing to do; and I think through
 6 conversations that I've had *I think* and a number of you have had
 7 resulting from visits of Senators and Congressmen to the
 8 North Slope last year. The companies in that area did a
 9 very good job in showing them the situation and how the
 10 sound environmental interest could be affected and
 11 protected by the industry working in that area.

12
 13 Some of those legislators very frankly stepped
 14 off the airplane expecting to see a pristine wilderness
 15 area with trees, shrubs, wildlife and one of the
 16 Democratic Senators that got off the plane *heard* was ~~was~~ to
 17 remark, where is it, is that *And that* all there is, as the
 18 mosquitoes circled overhead. ~~That~~ Senator has become a
 19 supporter of the opening of *ANWR* ~~ANWR~~.

20 Since more and more of our reserves are going
 21 to be found in remote regions under severe conditions
 22 and with more exotic technologies, I think we need to
 23 continue our efforts to support more advanced
 24 technologies that can recover up to 300 billion barrels
 25 of trapped oil in existing reservoirs. If we could
 develop only 10 percent of this amount, we could double

1 annual U.S. production and to this end, the Department
2 has launched several initiatives to improve techniques
3 of enhanced oil recovery.

4 There's been some progress and we've had a
5 large enhanced oil ^{program} recovery for a long time but recently
6 in order to define it and focus what we are doing, we
7 have set ^{at} up the department ~~for~~ the new Office of
8 Geoscience Research and we are working with the Interior
9 Department ~~and~~ the National Science Foundation and the
10 Hydrocarbon Geoscience Coordinating Committee to
11 facilitate federal activities and to develop a strategic
12 plan for hydrocarbon geoscience research. We're
13 spending about \$40 million a year in this area now. We
14 will continue to consult with all aspects of your
15 industry, the universities, the state agencies, the
16 private research institutions, and the national
17 laboratories to develop additional initiatives ⁱⁿ ~~for~~
18 enhanced oil recovery, and to bring it within the reach
19 of more producers.
20

21 Along with these and other incentives, the
22 door needs to be open to consideration of additional
23 incentives for capital formation in this industry and
24 for stimulating exploration and development. I
25 mentioned a year ago that the President sent a
comprehensive package of energy initiatives to Congress

1 proposing several initiatives that I think would lead to
2 more exploration and development, reduce early well
3 abandonment, stimulate additional drilling activity with
4 this particular proposal, ^{of} ~~repeal~~ the transfer rule I
5 think can show a lot of benefit, increasing the net
6 income limitation on the percentage depletion allowance
7 -- a lot of these involve tax changes. These changes
8 are still on the table in Congress and I continue to
9 believe that they and other incentives should be fully
10 enacted in the interest of energy security.

12 I think we ought to look at additional things
13 such as tax credits, expensing of G&G costs, depletion
14 allowances. It's been pointed up to me by a number of
15 knowledgeable people, quite correctly, that the "carrot"
16 in this industry is a historical fact and a precedent
17 that has always been used that helps independents and
18 majors alike, and it's important for us to provide the
19 carrot for both the independents and the majors.

20 Despite many serious concerns that are still
21 confronting the petroleum industry, there are grounds to
22 be guardedly optimistic about the future -- repeal of
23 the windfall profits tax and implementation of
24 additional incentives would be a stimulus for further
25 exploration and development; considerable production
potential still exists on federal lands and through the

1 application of emerging techniques of enhanced oil
2 recovery; natural gas supplies will be available for
3 generations according to our recent study; and if
4 Congress takes action to remove the remaining shackles
5 of counterproductive regulations, the full promise of
6 this resource I think could be released. Energy
7 security is much stronger today with our greatly
8 expanded petroleum stockpiles; today we have 540 million
9 barrels in the strategic petroleum reserve and the
10 prospect of enacting a free trade agreement with Canada.

12 Finally, I'd like to mention that. The free
13 trade agreement with Canada to me is, in the energy
14 section, one of the most revolutionary proposals to come
15 down the track in a long time. It opens up the largest
16 free trade zone in the world between Canada and the
17 U.S., two great trading partners.

18 I've had a number of people say from the gas
19 industry, this is not a good thing to do for the
20 country. I don't agree with that. The undesirability of
21 gas as a reliable fuel has been one of the questions
22 *that consumers* ~~consumers~~ have had for years. The free trade agreement
23 will open up gas supplies, large amounts, more gas will
24 be sold in the U.S., more gas will be sold in Canada,
25 more gas will be transported and more gas will be
consumed. It will help people become *use* ~~used~~ to gas and

1 dependent on gas which I think is an abundant part of
 2 our energy mix. I like it because of the diversity.
 3 The Canadian free trade agreement makes a lot of sense
 4 to me.

5 I don't believe it's a time for quick fixes
 6 like oil import fees, energy tariffs or protectionism.
 7 It's a time for vision, sound economic solutions and for
 8 persistence, *the talent* *of* ~~a time~~ and ability ~~for~~ the American
 9 petroleum industry in responding to recent challenges I
 10 think bodes well for the future. Working together, we
 11 have the resources, the technology, and the will to
 12 provide for a secure and prosperous energy future.

14 Ed, thank you very much for allowing me to
 15 address the group.

16 CHAIRMAN COX: Thank you very much. The
 17 Secretary has been gracious enough to say that he'll be
 18 able and try to answer any questions anyone might have
 19 at this time. If you have a question for the record, if
 20 you'll please identify yourself before asking the
 21 question, we'd appreciate it. *Mr. Secretary, we'll see if we have any questions. Please.*

22 *HUFFINGTON*
 MR. HUFFINGTON: Do you see the trade bill
 23 getting back into Congress before President Reagan gets
 24 out?

25 SECRETARY HERRINGTON: The one that he vetoed?
HUFFINGTON
 MR. HUFFINGTON: The one that he vetoed?

1 SECRETARY HERRINGTON: I do, I really do. ^{Roy, I}
 2 think that the Democrats as well as the Republicans need
 3 a trade bill and there are several -- I think we've done
 4 our homework on this one and I think now that the
 5 politics is out of it by the veto being sustained
 6 hopefully by the end of today, I think the trade bill
 7 will come back and I think it will come back with
 8 windfall profits. I think there are probably a couple
 9 of things that will be out of it. I don't know if they
 10 can get export of Alaskan oil out of it; I think that's
 11 probably too tough to do. I'd like to see that out of
 12 it but it's going to be tough.

HUFFINGTON

14 MR. ~~HUFFINGTON~~: Will the Canadian trade bill be
 15 ratified ^{or} ~~and~~ approved by Congress?

Well, you read in the Wall Street Journal this morning that

16 SECRETARY HERRINGTON: ¹ there's difficulty
 17 with the Canadian free trade agreement, there is
 18 difficulty in Canada as well as here, there's a lot of
 19 politics involved in this. The big stumbling point
 20 obviously in the U.S. is the uranium provisions that
 21 amount for several billion dollars of aid to the U.S.
 22 uranium industry and then the Canadians have a number of
 23 problems with it as well as the U.S.

24 I'm optimistic on the trade bill. I would
 25 like to see it ratified, I think it's a good thing. To
 me it sets up the precedent of a North American trade

1 zone that is unparalleled in the world. It's going to
 2 be difficult. I'm more optimistic on the trade bill
 3 that Congress passed.

4 MS. ARNOLD: *I am with Midcon Corp.* Could you share anything with us
 5 about the status of the *FERC nominations?* ~~FERC boundaries (ph)?~~

6 SECRETARY HERRINGTON: I can't, all I can say
 7 is we'll resolve it very shortly. I'm intimately
 8 involved in that and I think we've worked out a
 9 solution. There are tremendous politics in the FERC
 10 nominations, as you may know and it's a rapidly changing
 11 situation, but I don't feel that I would like to step
 12 out on it before the President makes his announcement.
 13 I don't think that's part of my job.

14 *PALMER* *Palmer with Rowan.*
 15 MR. ROWEN: *Rowan* Could you give us the
 16 current status on *ANWR* ~~imperial~~ legislation and what you see
 17 happening?

18 SECRETARY HERRINGTON: I cannot actually
 19 predict that *ANWR* ~~Anwar~~ will happen this year. It's still
 20 difficult but the groundwork has been set and the
 21 principle that *ANWR* ~~Anwar~~ should be explored has been set in
 22 the minds of Congress. If it doesn't happen this year,
 23 it will happen next year. I might caveat that unless
 24 you get a President elected in the next administration
 25 that does not believe in exploration and development,
 and does not believe in these energy security issues

1 that we have talked about. That's a pointed remark
 2 because I am watching some of the campaign rhetoric that
 3 is going on and I think some of ~~the~~ ^{the} rhetoric on the
 4 Democratic side is totally inconsistent with energy
 5 security for this country, the call for elimination of
 6 all offshore drilling, the calls for -- I'm talking
 7 about blanket prohibition against offshore drilling, the
 8 abolishment of nuclear power in this country, and I
 9 think that would spread to the ~~Answer~~ ^{ANWR} situation.

10 I am hopeful that ~~Answer~~ ^{ANWR} comes through this
 11 year. I think it is still a question in doubt and we're
 12 working very hard on it. Provided the right political
 13 climate breaks, the notion of ~~Answer~~ ^{ANWR} has been set in the
 14 minds of the Congress and I think it will take place
 15 after the election.

17 MR. PARKER: Bob Parker. You don't have to
 18 answer this but I'd like to ask it anyway. ^{from your association with} the Vice
 19 President, ^{who is} ~~as~~ a candidate, ^{all that} any comments you might have
 20 ^{on his energy plan?}

21 SECRETARY HERRINGTON: I have great confidence
 22 in the Vice President's understanding of this issue. I
 23 have briefed him several times. He is, as you know,
 24 well aware of the energy industry, he grasps the
 25 principles of energy security for this country as few in
 this town do, and he understands the problems we are

1 facing from personal experience. I think we can have no
2 finer candidate from my party and I am quite proud to
3 say that I'm very enthusiastic about his election.

4 MR. CASH: Don Cash with Questar. This report
5 on natural gas that you've just completed. *What* ~~What~~ is the
6 next step? Where are you planning to take the report
7 from here?

8 SECRETARY HERRINGTON: I think I might direct
9 you to Bill who chaired the group and can talk about it
10 and he's got some ideas on this. I think there are some
11 next steps that we're looking at. I think the main part
12 of this report is to inform the public of the potential
13 and of the true facts regarding gas supplies because to
14 me there's a great deal of misconception. I have
15 learned this and I think a lot of you have on the Hill
16 and working with gas proponents and gas opponents. This
17 is a real start and I say that, it is a start. More
18 needs to be done certainly and we are looking at facts.
19 Bill has some very good ideas and perhaps during the
20 break or lunch hour you can discuss it with him.

21 Some have said this report is too
22 conservative, I don't think so. It could have gone a
23 lot farther. There's a lot of information in here that
24 would have led us to a much more optimistic picture. I
25

1 think this is a very optimistic picture and is easily

2 defensible by anyone that's knowledgeable in this field.

3 *Any others? Thank you, Ed.*

4 CHAIRMAN COX: *We're always delighted to have you and we appreciate your being with us today.*

5 (Applause)

6 CHAIRMAN COX: One of the studies the Council

7 has undertaken has been your request for the study of

8 proposed Petroleum Research Institute. Pete Silas has

9 chaired that committee and he and the other members of

10 the committee have *spent* taken a tremendous amount of time and

11 a lot of you here in this audience have participated in

12 this directly and through your people *to whom* and we're all

13 indebted to all of you. I'd like to call on Pete now to

14 make his report of that committee.

15 *Thank you, Mr. Chairman, Mr. Secretary, Mr. Chairman, and ladies and gentlemen.*

16 MR. SILAS: It is my pleasure today to present

17 to you for consideration and action the recommendation

18 of the NPC Committee *the* on Establishment of a National

19 Petroleum Research Institute. I'd like to recognize

20 *Allen* Ellen Wampler who *up* is here on my right, who co-chaired

21 this committee with me. I'll just be covering the

22 highlights today and you have the additional information

23 in a draft report which we have distributed and I

24 believe *is* it's on the table.

25 *I believe you can all see that.*

Our committee was formed eight months ago in

response to a July 2, 1987 request from the Energy

Secretary, John Herrington. Secretary Herrington asked

1 the NPC for a recommendation on ^{the} advisability and
2 feasibility of establishing a National Petroleum
3 Research Institute, one similar to the existing Gas
4 Research Institute.

5 The Secretary asked the NPC to determine
6 whether such a petroleum institute might help promote
7 additional research and development to increase the
8 recovery of oil and gas already discovered, help develop
9 new long range technologies and perhaps help in
10 providing an industry prospective on future R&D needs.

12 In developing this approach to the study, our
13 committee decided that it needed first, to learn more
14 about the nature and extent of the industry's R&D
15 activity. Therefore, with the help of Arthur Anderson
16 and company, we initiated two surveys of the NPC member
17 companies. These surveys allowed us to estimate the
18 level of research and expenditures and manpower
19 commitments by U.S. oil and ~~service~~ ^{SERVICE} companies during the
20 period 1975 to 1988.

21 We also learned what major areas of research
22 were being addressed by the industry and how the
23 industry felt about the relative importance.

24 We were able to explore whether the industry
25 felt there were ~~research~~ ^{any research} areas that were not being
addressed and whether there were any potentials for

1 additional cooperative industry research leveraged by
2 DOE funding.

3 I have to tell you that ~~we~~ ^{this} were quite
4 surprised by what we learned from ~~the~~ survey. This chart
5 shows that upstream research spending and manpower
6 allocations grew steadily in the early 1980's and
7 doubled in real terms between 1975 and 1985.
8 Expenditures are shown by the red bars and manpower
9 levels by the yellow line.

10 At this point, I want to remind the members
11 that the survey data in the May 24th draft were not
12 final, and we now have the final ~~or just the~~ ^{adjusted} numbers
13 from Arthur Andersen which include more data than the
14 May draft. The most significant change is in the yellow
15 manpower line which will now be about 50 percent higher
16 than shown on this particular chart.

17 As you might imagine, the 1986 collapse in oil
18 prices caused a decline in R&D ~~activity~~ ^{activity} but not by as
19 much as might have been expected, given the current low
20 level of prices. We found that R&D commitments
21 stabilized in 1987-1988 at about 80 percent of the peak
22 effort.

23 On this slide, the bars once again show
24 upstream R&D expenditures but the yellow ^{line} shows the price
25 of oil in 1988 dollars and you can see clearly that R&D

1 expenditures have not reflected the drop in prices that
2 we have seen since 1981. We all know about R&D cutbacks
3 that did occur when oil prices dropped in 1986, but our
4 survey indicates that for the most part, these cuts were
5 most severe in R&D activities outside the industry's
6 core business areas of oil and gas discovery and
7 recovery. (Slide)

8 This slide outlines in more detail the
9 industry commitment to upstream R&D. As you can see,
10 with the one exception of chemical flooding, manpower
11 commitments have increased significantly since 1975 and
12 are up more than 50 percent on an overall basis.

13 So part of what we discovered in our survey
14 was this, the upstream research commitments of the oil
15 and service companies responding to our survey amounted
16 to some \$772 million a year. That number is now over ~~\$8~~
17 million in the final survey ~~aggregation~~ ^{aggregations} ~~which~~ ^{\$800} will be in
18 the final report.

19 In addition, we know that upstream research is
20 being conducted by private research laboratories and
21 other companies not included in this survey. So we feel
22 it's reasonable to estimate that more than \$1 billion a
23 year is being devoted to private sector, domestic
24 upstream research.
25

1 Our survey also found that R&D expenditures
 2 and manpower commitments have remained relatively
 3 constant during the 1980's and that from 1975 to 1988, a
 4 period in which real oil ~~process~~ *prices* fell 7 percent, R&D
 5 spending and manpower commitments increased by 50
 6 percent. (Slide)

7 Here is one more area ~~we~~ *that* covered in our
 8 survey. We asked for opinions on 78 specific areas of
 9 research in geoscience and enhanced recovery. These
 10 topics were identified in previous NPC, Energy Research
 11 Advisory Board and National Research Council reports on
 12 being of potential importance in future oil recovery.

13 Our survey found that active research programs
 14 are underway in areas considered highly important like
 15 geology and geophysics, for example. We found that
 16 opinions were mixed about such research areas as
 17 geochemistry, thermal recovery, and ~~miscellaneous~~ *miscible* flooding
 18 ~~(ph)~~ but that research in these areas is being *actively* pursued
 19 by some companies. Even areas considered less
 20 important, ~~the~~ chemical flooding, are being pursued by a
 21 few companies.

22 *And Finally,*
 23 ~~Finally~~ those who responded to our survey did
 24 not identify any other significant areas of additional
 25 research where major new initiatives would be required.

1 We carried out ~~one additional~~ addendum to our
2 survey. We wanted to know how much voluntary support
3 there would be for cooperative industry research if DOE
4 match funds were made. We had 32 positive responses and
5 25 said they were not interested. Of those responding
6 positively, most indicated a willingness to contribute
7 between \$10,000 and \$100,000 a year, and 80 percent said
8 that these expenditures would be over and above the
9 current levels of spending.

10 It appears to us that our industry may well be
12 in a position to increase cooperative research on some
13 specific projects, particularly if a coordinated effort
14 can be promoted to facilitate such efforts. However, we
15 don't feel that cooperative joint research is likely to
16 increase dramatically over current levels, given the
17 large and continuing industry effort currently being
18 pursued.

19 Therefore, our committee recommendations are
20 as follows. We suggest that instead of establishing a
21 National Petroleum Research Institute, that the NPC
22 recommend two complementary initiatives: first, the
23 establishment of an industry forum or clearinghouse to
24 facilitate the development of cooperative research
25 projects aimed at improving oil recovery; and second,
the encouragement of multiple disciplinary university

1 research with modest funding increases in selected
2 areas.

3 We see these two recommendations as
4 complementary with the forum providing a vehicle for
5 universities to seek industry funding for research
6 projects and providing industry with better access to
7 existing research efforts by the academic community.
8 Forums similar to the one we have in mind have been
9 established and operated successfully by the Lease
10 Planning and Research Committee of the Alaska Oil and
11 Gas Association and by the Drilling Engineering
12 Association.

14 We feel it's important for the NPC to
15 emphasize in its communication with the Secretary that
16 additional *Support* research for our industry is likely to be of
17 only limited benefit in reducing our nation's import
18 dependency. Other policy options would have a
19 significant greater impact on increasing domestic oil
20 production in the next decade. Some of the most
21 important of these options are greater access to federal
22 lands, improved lease terms and elimination of the tax
23 disincentives such as windfall profits tax.

24 We feel it's vitally important for our nation
25 to pursue all potential options to keep our domestic
production as high as possible.

1 That summarizes our committee's recommendations
 2 for NPC action, Mr. Chairman and if we have any
 3 questions either I or one or the other committee members
 4 will be happy to respond.

5 CHAIRMAN COX: Are there any questions of
 6 Pete?

7 VOICE: Was there any thought of investigation
 8 of horizontal drilling?

9 MR. SILAS: *Charlie, that* ~~That~~ was not part of our survey. I
 10 think there's some activity that's being pursued now
 11 among industry groups already but that was not
 12 particularly a part of our survey. *Other questions?*

13 CHAIRMAN COX: Do we have a motion *then* from you,
 14 Pete, that we accept this draft report?

15 MR. MITCHELL: I was on the committee too and
 16 *about where I differ*
 17 ~~there are some comments I'd like to make that are~~
 18 ~~different~~ with the committee's opinion on this, if you
 19 don't mind.

20 ~~I'm George Mitchell of Mitchell Energy and I~~
 21 ~~was one of the ones who worked on the committee reports~~ *this*
 22 The great concern ~~that~~ I have is that what's going on in
 23 the research, that the research being done is very good
 24 *you* ~~and as~~ brought out here, it covers a lot of fields, but
 25 I think it's totally insufficient to do what we have to

1 do in the next 25 years if we're going to really stay
2 ahead of the world.

3 If you go back and think about we did in
4 developing the offshore technology compared to drilling
5 of ~~Bretton~~ *Bretton* Sound ~~(in)~~ in the early '40's, piling 16 foot
6 piling was a tremendous development that was
7 accomplished by this industry, the geophysical
8 development that this industry accomplished, and what we
9 have done, I just think we have to really do a lot more
10 than we're doing.

11 *Now what*
12 ~~What~~ comes to mind is that when you look at
13 the research done by government, truly oil and gas
14 research, whether they show some number around \$500
15 million, *that* all we can identify really, about \$50 million
16 directly related to oil and gas research done by
17 government. I think that's totally insufficient when you
18 consider that DOE has a budget for clean coal research
19 *in* ~~of~~ the next two years of \$550 million and nondefense
20 nuclear research of over \$2 billion, and ~~we~~ only have
21 \$40 to \$50 million *in* oil and gas, there's something wrong
22 with what's going on, in my opinion.

23 I think it's going to take about a quarter of
24 a billion dollars more. *It's going to* If ~~we~~ start out slow, maybe \$20
25 million but in five years they ought to develop
something like *Semitec* ~~Semitec~~ has done where 11 companies now

1 are putting up \$125 million, Department of Defense is
 2 putting up \$125 million, driven by the private sector to
 3 supplement the research of billions of dollars being
 4 done by the sectors of the oil business, because it'll
 5 take a quarter of a billion dollars, 25 percent more for
 6 me to have impact, and the problem we have is that the
 7 industry feels that DOE shouldn't do it, *that* ~~the~~
 8 universities shouldn't do it, but if it's driven by
 9 them, then I think it would have a great impact on the
 10 nation in the next 25 years. *Not only is it EOR but*

12 That's the thing that concerns me. *that* ~~it's~~ the
 13 offshore technology, the depths we're drilling, the
 14 *hydraulic* ~~hydraulic~~ fracturing, the geophysics -- I predict in *that*
 15 ten years if you have a thousandfold increase in
 16 computer capabilities, *you'll* ~~we'll~~ find gas directly. You'll
 17 still have to drill that well, don't misunderstand me
 18 but you'll be able to do that in ten years. Those are
 19 the kinds of things we should be doing more of. What
 20 I'm arguing about is *that* ~~we're~~ doing a totally insufficient
 21 amount of research in oil and gas. I think that somehow
 22 we've got to come together and make this happen better.

23 MR. SILAS: I'd like to comment. In the first
 24 place, George was very active on our committee and as
 25 you know, this is the type of report that obviously
 there's differences of opinion throughout the industry,

1 but I think that the point was made in our committee
 2 meetings that the oil industry ought to be proud of what
 3 they've done. They've done a great job in supplying
 4 cheap energy to this country and to other parts of the
 5 world, and that I think it surprised a lot of us that to
 6 recognize that over a billion dollars is presently being
 7 spent today per year by private industry. I think *that we have*
 8 brought out in our committee meetings that *this is* a very
 9 competitive industry, that enhanced oil recovery is a
 10 very competitive part of how our companies operate and
 11 compete with each other.

12 *have*
 13 We also brought out that the technology that
 14 is developed privately, *that* does get out to the
 15 industry via a lot of obviously joint ventures and
 16 *private* partnerships where whoever has developed the
 17 technology will expose it to their *coventurers* or
 18 partners and it *no* doesn't take very long for this new
 19 technology to get out in the industry.

20 So I think the fact that so much money was
 21 already being spent in other energy areas really didn't
 22 influence I think most of the people on our committee
 23 and in this room, that they felt another 20 or 30 or 40
 24 million dollars compared to the billion that's already
 25 being spent would not significantly change the direction
 in which *our* the industry is headed.

1 *It* ~~what~~ was brought out ^{*though*} by George and others in
 2 the group ~~is~~ that there is some concern about the
 3 universities supplying talent down the road as we come
 4 back with the recovery. Where are we going to be
 5 getting these people when we have to staff up and do
 6 some more exploration and production. I think there is
 7 a concern, both Bill Fisher expressed it and others,
 8 that there is a concern that a lot of our university
 9 talent is being lost to the future requirements of our
 10 industry, so I think there is certainly a need for
 11 cooperative efforts between the universities and the
 12 industry and the DOE to help sustain a continuing
 13 program of providing university graduates to our
 14 industry.

16 Would anyone else like to comment or ask a
 17 question? Yes, please? ^{*Mr. Secretary.*}

18 *SECRETARY HERRINGTON*
 18 ~~MR. GLANVILLE:~~ ^{*If I could*} I'd like to say one thing. On

19 comparing research dollars, the point that George
 20 raised, he's quite right in pointing out discrepancies
 21 *in* ~~between~~ coal, ~~oil and~~ atomic energy and oil and gas.

22 It's an easy trap to fall into to measure the
 23 effectiveness of ^{*the*} ~~the~~ program by the amount of federal
 24 dollars spent in it. The coal situation, I testified
 25 Monday morning in front of the Appropriations Committee
 which has a lot of coal interests on it, and I was given

1 all kinds of negative questions because we're not
 2 spending enough on coal. There's a tremendous coal
 3 lobby in the U.S. Congress, that's Republican and
 4 Democrat.

5 I might point out when you measure the
 6 dollars, the research dollars don't reflect the program.
 7 We're ^{Building} buildings at ^{included in} the universities, we have ^{pork barrel} projects
 8 all over this country, ^{that these} including those figures, and most
 9 of you are aware of that ~~these~~ are not efficient
 10 programs and they're regional interests and they are
 12 tough to get out of spending. Every year we take them
 13 out and Congress puts them back in. We're building
 14 roads in New Mexico, and you answer me, what is the
 15 Department of Energy doing building roads in New Mexico
 16 or building buildings at certain universities around the
 17 and I won't single out all of them but the list is long
 18 country.

18 So these are vested interests ^{that} we have tried
 19 and tried to cut ⁱⁿ the spending. Measure the program and
 20 I agree that a lot should be done in ^{EOR} ~~New York~~ but
 21 measure the program by what you're doing and where the
 22 dollars are targeted, and try to take out some of the
 23 gross figures in trying to evaluate this.

24 MR. SILAS: Mr. Chairman, I'd like to close by
 25 thanking the members of my committee and other special
 assistants as well as the numerous people who

1 contributed to the survey that we sent out. Now, on
 2 behalf of the Committee *on Establishing* ~~to establish~~ a Petroleum
 3 Research Institute, I move the adoption of the report.

4 MR. GLANVILLE: I second, Mr. Chairman.

5 CHAIRMAN COX: I have a motion *and a second.*
 6 *Questions? Any* ~~seconded, the motion, and~~ other comments? Discussion?

7 (No response.)

8 CHAIRMAN COX: All in favor, say aye?

9 (A chorus of ayes.)

10 CHAIRMAN COX: Opposed?

12 (No response.)

13 CHAIRMAN COX: Thank you, Pete, for your
 14 leadership because this was a tough job for Pete to
 15 assume. He did it and did an excellent job *in it* and we're
 16 indebted to him and all of his other people that
 17 participated *in it*

18 I think *that* the next item on the report is Bill
 19 Swales who is not able to be here but we do have a
 20 progress *report* on the NPC Committee on Petroleum Storage and
 21 Transportation. Riad Yammine is going to report on
 22 behalf of *Bill* Swales.

23 *Thank you, Mr. Chairman. Ladies and gentlemen.*
 MR. YAMMINE: Mr. Swales has asked me to

24 express his regrets that he could not be here today and
 25 has asked me to deliver his committee's progress report
 for him.

1 By way of background, the National Petroleum
2 Council's current study of U.S. petroleum ~~inventories~~ *inventories*
3 storage and transportation was initiated by a request
4 from the Secretary of Energy for a comprehensive
5 updating of the ~~Council's~~ *Council's* 1979 report, Petroleum Storage
6 and Transportation Capacities and its 1984 report,
7 Petroleum Inventories and Storage ~~Capacities~~ *Capacity.*

8 At the last Council meeting, Mr. Swales
9 reported on the scope and organization of the study,
10 indicating that the study has a coordinating
11 subcommittee and three task groups. The committee and
12 its coordinating subcommittee are addressing the study's
13 broader policy questions and coordinating the work of
14 the task groups on Natural Gas Transportation, Liquids
15 Transportation, and Inventories and Storage.

17 The organizational structure and study rosters
18 are contained in the progress report in your packets.
19 The study groups are determining physical changes that
20 have occurred in petroleum and transportation systems
21 since the '79 report, emphasizing pipeline and
22 waterborne transportation.

23 The study is also updating the primary
24 petroleum distribution system inventory and storage data
25 from the '84 report, including new minimum operating
inventory levels for crude oil and the principal

1 petroleum products and estimates for storage capacities
2 and inventory ~~levels~~ ^{levels} in the secondary and consumer or
3 tertiary sectors.

4 Natural gas storage is also being studied. As
5 many of you know from having received the ~~questionnaires~~ ^{questionnaires,}
6 most of ~~this~~ ^{these} data ~~is~~ ^{are} being collected by survey. The
7 data from these reports is being examined and tested to
8 determine ~~substantial~~ ^{potential} stress points in the nation's
9 petroleum and gas systems, the strategic petroleum
10 reserve is also being examined as a source of emergency
11 supply, relying heavily on the ~~NRC~~ ^{NRC's} 1984 report on the
12 SPR.
13

14 In addition to these analyses, the study is
15 examining changes in petroleum markets due to various
16 factors including the expansion of the futures and other
17 forward markets and changes in the natural gas industry
18 brought about by regulatory policy changes implemented
19 through recent FERC orders that move toward the more
20 open marketplace.

21 We are placing much greater emphasis on the
22 dynamics and interrelationships of the petroleum and
23 natural gas delivery ~~system that~~ ^{systems than} was in the earlier
24 studies.

25 This morning I'd like to brief you on our
progress and outline our plans for the remainder of the

1 study. Since ^{the} initiation of the study work late last
2 year, a significant amount of progress has been made in
3 areas of survey design and data collection and review,
4 as well as analysis and writing assignments not
5 dependent on survey data. The commitment and expertise
6 of the study participants are outstanding and provide
7 testimony to the strong support the study is receiving
8 from the industry and the U.S. Department of Energy,
9 particularly the Energy Information Administration.

10 As I mentioned, a great deal of information is
11 being collected by industry surveys. The committee's
12 working groups have each developed and sent out
13 questionnaire packages to their segments of the
14 industry.
15

16 The Natural Gas Transportation Task Group is
17 collecting nonproprietary storage and transportation
18 data on approximately 70 ^{inter-} ~~inter~~ and ^{intrastate} ~~intra state~~ pipeline
19 systems. With this data, the group is developing a
20 description of the natural gas delivery system
21 capability on a regional basis for use in testing the
22 natural ^{gas} ~~base~~ delivery system, the task group has
23 collected and is analyzing historical and projected
24 supply ^{and} demand data including identifying the effects of
25 weather and fuel switching.

1 The study participants feel that detailed
2 individual system maps need not be developed, however
3 national and regional maps are being updated and
4 longitude and latitude data are being collected where
5 available.

6 The Liquids Transportation Task Group is
7 collecting nonproprietary information on approximately
8 150 crude oil and petroleum products pipeline systems by
9 survey. Waterborne tank car and tank truck capacities
10 are being collected from existing sources. These data
11 are being used to develop a description of petroleum
12 delivery ~~system~~ *systems'* capabilities on a regional basis.

13 In addition to detailed area maps showing
14 major pipeline interconnections, national and regional
15 maps are being developed. Longitude and latitude data
16 are being collected for computerized mapping purposes.

17 The Inventories and Storage Task Group is
18 collecting proprietary information from approximately
19 400 companies in the primary petroleum distribution
20 systems and a sample of 2,000 in the secondary system.

21 In addition to information on ~~inventories~~ *inventories*
22 ~~capacities~~ *Capacity,* these companies will ask questions on
23 petroleum futures and the strategic petroleum reserve.

24 As these surveys involve proprietary data, the
25 responses are being collected and protected by the

1 public accounting firm of ~~Deloide~~ *Deloitte* Haskins and Sells
 2 with only aggregated results being released. Estimates
 3 of inventories and storage capacities in the various
 4 *Sections* ~~sectors~~ of tertiary or consumer sector are being
 5 developed by task group *analyses.* ~~analyses~~ Estimates will also
 6 be made *of* ~~on~~ minimum operating inventory levels for crude
 7 oil and principal petroleum products.

8 The information from the surveys and *analyses* ~~analyses~~
 9 will be used to better *define* ~~define~~ the interrelationships
 10 between the primary, secondary and tertiary systems as
 11 well as to measure the impact of a possible drawdown of
 12 stocks in the event of an emergency.

14 This brief review does not begin to describe
 15 the complexity of the surveys and the amount of work
 16 required to complete them. Despite the staff reductions
 17 that we have all experienced, the response to the
 18 surveys has been excellent. Mr. Swales would like me to
 19 thank you all for the hard work your companies have put
 20 into your responses.

21 The survey of natural gas pipelines *had* ~~have~~ the
 22 earliest return date and has received the most extensive
 23 follow up by the task group. At this time, the response
 24 to that survey is greater than 80 percent. The
 25 Petroleum Pipeline Group has received responses for over
 50 percent of the pipelines surveyed. The Task Group

1 has begun followup and many of the companies have
2 indicated that due to the complexity of the survey,
3 their responses will be late but should be returned
4 within the next several weeks.

5 The Inventories and Storage Task *Group's* ~~Group~~ surveys
6 *had* ~~have~~ the latest return date and are now receiving an
7 extensive followup. The response rate for these surveys
8 is now about 25 percent. This response rate is somewhat
9 deceiving. When we surveyed the primary system in 1983,
10 we received responses from slightly over 50 percent of
11 the companies surveyed but they represent about 90
12 percent of the stocks in the primary system.

13 As I said a moment ago, the followup for these
14 surveys has just begun. The Task *Group hopes* ~~Groups hope~~ that when
15 *Survey is* ~~the surveys are~~ closed, the response rate will be better
16 than in 1983.

17 I'd like to take this time add my thanks for
18 all the hard work that's been done on these surveys by
19 the various companies. If there are one or two of you
20 that have not yet responded, I encourage you to do so as
21 soon as possible.

22 Once the survey and data analysis phase is
23 *work* completed, the task group will be integrated into a
24 system dynamics section under the direction of the
25 Coordinating Subcommittee. Broad industry trends will

1 be examined, the present and future capabilities of the
 2 nation's natural gas and petroleum delivery and
 3 distribution systems will be tested under business as
 4 usual and stress conditions. Baseline 1992
 5 supply/demand balances will be used to test the system's
 6 future capabilities.

7 In addition, two national and four regional
 8 stress scenarios are being considered for quantitative
 9 examination with a combination of these conditions being
 10 addressed qualitatively. The national stress scenarios
 11 are: a weather induced stress scenario in which the
 12 winter is 10 percent colder than normal for 90 days and
 13 20 percent colder than normal for 30 days; two, an oil
 14 imports interruption of 3 million barrels per day
 15 invoking an SPR drawdown; the regional stress scenarios
 16 are being considered: first a products pipeline
 17 disruption that involves a loss of a pipeline from
 18 the Gulf Coast, to the Midwest, for at least
 19 30 days; second, a disruption of the Trans Alaskan
 20 Pipeline for at least 30 days; third, a gas imports
 21 disruption caused by a logistical disruption of natural
 22 gas imports from Canada; and finally, an electric power
 23 generation capacity loss that increases natural gas
 24 demand such as might result from a shutdown of a class
 25 of nuclear power plants.

1 The analysis in the systems dynamic section
 2 will provide greater insight into the interrelationships
 3 of the petroleum and natural gas ~~system~~ ^{systems'} abilities to
 4 supply consumers under a variety of possible future
 5 ~~scenarios~~ ^{scenarios}.

6 The study schedule approved by the committee
 7 and presented by Mr. Swales to the Council at its last
 8 meeting called for completion of the study by the end of
 9 this year. The study groups are working toward that
 10 objective with the summer devoted to the completion of
 12 the data collection and analytical phases and the fall
 13 to the development and review of a draft report. A
 14 proposed final report will be submitted for the
 15 Council's consideration and action at its next meeting.

16 Mr. Chairman, that concludes the progress
 17 report of the NPC Committee on Petroleum Storage and
 18 Transportation. I'll be glad to answer any questions
 19 from ^{the} Council ^{membership.} ~~members.~~

20 CHAIRMAN COX: ^{Thank you, Riad.} Any questions at this stage?
 21 (No response.)

22 CHAIRMAN COX: If not, we'll look forward to
 23 the full report being completed at the end of the year.
 24 Thank you. ^{Thank Bill. I'm sorry that he could not be with us.}
^{Thank all the other members of the committee.}

25 Jim Miller has had an illustrious career.
 Many of you have known him in various capacities. ^{that he's filled} He's

1 been here in Washington ^{for} the last few years as the ^{has been}
 2 Director of the Office of Management and Budget and ¹
 3 doing superb job for the President. Prior to that, he
 4 was Chairman of the Federal Trade Commission. We are
 5 honored and flattered to be able to have Jim with us
 6 today because he has made a contribution to this nation
 7 and we're delighted to hear from you at this time.

Good morning and welcome to Washington.

8 MR. MILLER: President John Kennedy once said
 9 that Washington is a place that combines all the charm
 10 of the north with the efficiency of the south.

12 (Laughter)

13 MR. MILLER: But then being in the oil
 14 business, you know that already. More than any other
 15 branch of American enterprise, the oil industry has
 16 experienced both the charm and the efficiency of
 17 Washington in ample measure. That makes my job this
 18 morning both very easy and very difficult because almost
 19 everything I'm going to say will have a familiar ring.

20 You above all are aware that excessive federal
 21 taxes and regulations stifle economic growth, reduce
 22 output and increase unemployment. ^{And you} ~~you~~ above all know
 23 that reversing these policies produces the opposite
 24 results. This was true for the oil ^{industry and} ~~industry~~ it's been
 25 true likewise for the economy as a whole.

crises

1 As we all know, the energy ~~crisis~~ of the last
2 decade was not caused by a shortage of energy, but a
3 surplus of federal regulations. The shortages, the gas
4 lines, the fist fights at the station pumps, the
5 mandated thermostat settings and the other miseries we
6 had to endure during the period could all be avoided or
7 could have been avoided very easily had we pursued free
8 market solutions to the problem, had we let the market
9 determine prices and allocations instead of federal
10 regulators, we would have had few of these woes that
11 made life so difficult for us during those days.
12
13 Germany and Japan did exactly that, and we
14 *had* ~~have~~ no gaslines, even though they were far more
15 dependent on imported oil than we were. I remember at
16 the beginning of the Administration, I was there the
17 first day and one of the first things we did was turn on
18 the hot water in all the federal buildings. They were
19 without *they had turned them off;* hot water. We turned the hot water on. The
20 second thing we did was we took down one of those
21 thermostat signs in the new Executive Office *Building,* ~~Buildings~~
22 one of the associate directors ripped it down, symbolic
23 maybe and probably violated the law in some way, *bye*
24 regulations of some kind.

25

1 So one of the first things that Ronald Reagan
2 did as President was to scrap federal allocation and
3 price controls.

4 As you recall he did so over some considerable
5 opposition. Critics shrieked that oil prices would
6 skyrocket and our dependency on imported oil would
7 increase because consumers would stop conserving. In
8 fact, gasoline prices today, if you adjust for
9 inflation, are lower than they were 40 years ago.
10 Furthermore, energy consumption has not increased since
12 decontrol despite robust economic growth. The U.S.
13 economy today is 25 percent larger than it was ten years
14 ago but it uses roughly the same energy.

15 The free market solution to our energy
16 problems worked better, far better, than any solution
17 involving governmental controls. Free market solutions
18 were likewise effective in addressing other national
19 economic problems. Here again, we had to overcome a
20 great deal of skepticism.

21 Again the critics told us that disaster would
22 follow if we cut the budget, reformed the tax structure
23 and deregulated key industries. Instead, we got the
24 longest peacetime economic expansion in the nation's
25 history, now 66 months and going strong. In that time,
 have
 we created 15 million jobs, reduced dramatically the
 ^

1 rate of unemployment in the United States. The
 2 unemployment rate is not the only rate that's down; the
 3 inflation rate, interest rates, have plunged from
 4 stratospheric levels they were at the turn of the
 5 decade.

6 Of course some problems remain, both ~~for~~ *for* the
 7 oil industry and ~~the~~ *this* economy as a whole, but the
 8 solution to these problems lies in the further
 9 application of free market remedies, not going back to
 10 government intervention. For example, the trade ~~deficit~~ *deficit.*
 12 Early this year, you will recall we were being told
 13 that unless we erected high tariff barriers, America's
 14 industrial base would be washed away with a flood of
 15 foreign imports. Indeed, we heard dire predictions we
 16 would be sweeping floors and doing laundry for the
 17 Japanese.

18 ~~The~~ *But the* Reagan Administration resisted demands for
 19 the protectionism and what happened? The most recent
 20 trade figures we have are for the month of March. In
 21 March, the trade deficit was down \$4.1 billion from the
 22 February ~~deficit~~ *deficit,* and it was \$4.6 billion below the
 23 average monthly deficit in the last quarter of 1987.
 24 This narrowing of the trade deficit reflected a \$5.4
 25 billion increase in U.S. exports abroad. ~~Guess~~ *And guess* what,
 the biggest part of that increase in exports, some \$3.7

1 billion worth, was made up of manufacturing exports. So
 2 far from declining our industrial sector is taking the
 3 lead ⁱⁿ ~~and~~ reducing the trade deficit.

4 Clearly, what we need is not protectionism but
 5 greater efforts to reduce trade barriers worldwide.

6 ^{Now} I know the domestic petroleum industry has
 7 itself suffered from the influx of cheap foreign oil.
 8 This has caused some members of the oil industry to look
 9 to government for relief in the form of a tariff. While
 10 I sympathize with the problems of domestic producers, I
 12 believe a tariff would be a bad idea for several
 13 reasons.

14 Specifically, it would increase energy prices
 15 for consumers and businesses. It would increase
 16 unemployment, which would substantially reduce federal
 17 revenues and increase outlays, and this in turn would
 18 ~~exacerbate~~ ^{exacerbate} the federal deficit. Furthermore, past
 19 experience indicates that a tariff is usually followed
 20 by increased government intervention into the oil
 21 industry. ^{And what} ~~What~~ the industry needs now is not more
 22 government intervention but greater freedom of action.

23 We ought to repeal the Windfall Profits Tax, ^{we} ~~we~~
 24 ought to do some other things to enable you to explore
 25 for oil with less government impediments.

Accordingly the Reagan Administration is

1 pursuing a variety of free market alternatives designed
2 to strengthen the oil and gas industry. Particularly,
3 we want to, as I said, repeal the Windfall Profits Tax,
4 we want to decontrol natural gas prices at the wellhead.
5 In addition, we want to make federal lands more open to
6 oil and gas exploration, development and production and
7 repeal prohibitions on the use of natural gas by
8 electric utilities.

9 Finally, we want to retain the oil and gas
10 incentives of the 1986 tax reform package and encourage
11 Congress to make technical adjustments in the tax code
12 to encourage more oil and gas production. *Now this*
13 ~~This~~ approach
14 would not only assist the oil and gas industry, it would
15 benefit the economy as a whole. A vital and growing
16 economy is what we need right now if we're to solve the
17 biggest economic challenge that faces us today. *And here,*
18 ~~Here~~ of course, I'm speaking about the federal deficit.

19 The chicken littles among us have had a field
20 day on the deficit, the sky is falling, the sky is
21 falling, don't believe it. I won't pretend the deficit
22 is not a serious problem, it is. Nor will I minimize
23 the dimensions of the problem, but I will tell you the
24 deficit is a problem we can solve and it's certainly not
25 the political crime some people are trying to make it
out to be.

1 As you know, there are people ^{who are} today telling us
2 that while the present generation of Americans started
3 off with a clean slate, our children will inherit
4 nothing but debts from us, debts that will rob them of a
5 decent standard of living, but this is a complete
6 misrepresentation of the facts.

7 The present generation of Americans did not
8 start off with a clean slate. At the end of World
9 War II, the national debt was more than 110 percent of
10 the gross national product. In other words, the debt
11 was greater than our total output of goods and services
12 for the entire year. Today, the national debt is 43
13 percent of the gross national product, less than half,
14 and less than it was during the prosperous years of
15 1950's and the 1960's.

16 ^{Went to}
17 I ~~would~~ just say some people are saying
18 because of this monumental debt that has been built up
19 over the last 8 years, that the President, whoever is
20 elected in 1988, will be unable to push the economy
21 forward, that we have inevitably a recession if not a
22 depression at hand. I want to say why that is not true.

23 First of all, there's no natural law of
24 economics that if you have an expansion it's going to
25 come to an end. You tend to have economic expansions
 coming to an end because of bad policy. There's a

1 certain amount of luck involved, I know, what economists
 2 call unexplained variation, but basically if you look
 3 back a downturns, you can realize that there were policy
 4 choices that were made that encouraged that downturn.

5 I know it's easier to Monday morning
 6 quarterback than it is to call the plays in the huddle
 7 but what we've got to do, it seems to me, is to avoid
 8 bad policies. *And* I think among those bad policies would be
 9 protectionist trade legislation, would be mandated
 10 benefits. A lot of people *all saying that* ~~say~~ it's free, mandated
 11 benefits. One thing you learn as an economist is
 12 TANSTAAFL, that's the acronymn, there ain't no such
 13 thing as a free lunch.

14 If Congress mandates benefits, they're passed
 15 along to you and they're passed along to your consumers,
 16 *customers.* and ~~customers~~ Our heart goes out to people who don't
 17 have health insurance and so forth but there are ways of
 18 handling that other than mandating the companies offer
 19 that insurance and provide subsidies for it. There's no
 20 such thing as a free lunch.

21 *Minimum wage.*
 22 Minimum wage, of course we have compassion for
 23 people who are earning below or the lower rungs, but let
 24 us not lose sight of the fact that a rise in the
 25 *minimum* ~~minimum~~ wage law would unemploy precisely those people
 it's meant to help. We've had recently this sort of

1 derisive attitude toward people at the lower levels, the
 2 lower levels of income, people who are in ^{these} ~~the~~ service
 3 occupations, ^{"McJobs,"} ~~make jobs~~ you've heard that title, ^{of} ~~make~~ ^{"McJobs,"}
 4 ~~jobs~~ it's just a bunch of ^{"McJobs"} ~~make jobs~~ out there. I think
 5 that we ought to think twice about deriving adults who
 6 hold those kinds of positions; we ought to have respect
 7 for people who hold those jobs.

8 Secondly, such jobs are very important entry
 9 positions for youngsters. They have an opportunity to
 10 go ^{to} ~~and~~ know what it is to get up in the morning and go
 12 to a job and carry through on it, to deal with customers
 13 and to accept someone other than their parents as an
 14 ^{as if my own children accepted me as an authority figure,} ~~authority figure,~~ but I think that's very important.
 15 You get your foot on the rung ^a ~~of the~~ ladder to go up.

16 I worked at Freeman Brothers Grocery Store, a
 17 little independent grocery store in my home town, square
 18 footage is less than this room, and it was very
 19 important to me. Maybe one reason I feel sensitive about
 20 this McJobs charge is that two years ago my daughter
 21 worked all summer at McDonald's. Well, we cannot -- it
 22 seems to me, we've got to keep the economy going.

23 The other point I wanted to make that I didn't
 24 make is that the previous longest peacetime expansion
 25 began under the Kennedy/Johnson Administration and at

1 that time, the national debt was 46 percent of the gross
 2 national product, so when you see that longest peacetime
 3 expansion began, the national debt was a larger portion
 4 of gross national product than the national debt is
 5 today.

6 I don't think that the scare talk about where
 7 we are poised for a great recession or a depression
 8 makes sense. I just don't ~~think~~ ^{think} it's there.
 9 ~~But if~~ ^{But if} we can hold the line on spending and keep
 10 the economy growing at a healthy rate, we'll end up with
 11 a balanced budget. If on the other hand we revert to
 12 taxing, spending and regulating, the way the federal
 13 government did in years past, the economy will suffer
 14 and we'll never dig ourselves out of ~~the~~ ^a hole. We
 15 cannot return to the ~~fair~~ ^{failed} policies of the past. We
 16 ought to have more confidence in the successful policies
 17 of the President.

18 I think we ought to look forward to the future
 19 with ~~hope~~ ^{hope} and not misgivings because what is at stake
 20 here is not whether we have faith in a particular
 21 president or a particular party, the real issue is
 22 whether we have faith in ourselves and in our
 23 institutions and ~~our~~ ⁱⁿ principles.
 24

25 I yield to no one in my admiration of the
 President, but at the same time, you can't credit wholly

1 with inventing a new formula for national prosperity,
 2 reducing taxes, cutting federal tape, maintaining a
 3 stable dollar and giving a free rein to American
 4 enterprise were scarcely new ideas when he put them into
 5 practice. They were what the great majority of
 6 Americans used to regard as plain, old-fashioned
 7 commonsense. *#* *Now are* ~~And~~ we beginning to doubt the secrets of
 8 our success. Countries all over this world are moving
 9 in the direction of decentralization markets from
 10 Thatcherism in Great Britain, to what Mr. Gorbechev
 12 calls *perestroika,* ~~parastrike~~ to a great extent the whole world is
 13 going in that direction and at least in an opposite way
 14 from the direction of some of the critics here.

15 A decade ago there were the energy puritans,
 16 the witch hunters who denounced the oil companies for
 17 their alleged excess profits, *who* ~~and~~ scolded the American
 18 people for being energy pigs. They're the people who
 19 wanted to break up the oil companies, impose rationing
 20 and other controls and tax oil profits to death.

21 Today, they're the fiscal puritans. The
 22 scoffers who *denounce* ~~denounced~~ the economic gains of the Reagan
 23 Administration as phoney prosperity and who *scold* ~~scolded~~ the
 24 American people for their mindless consumption. They
 25 want to raise taxes and go back to government
 overregulation of the economy. *Well as* ~~As~~ Winston Churchill

1 once said, the Puritans always want to kill St. George
 2 and keep the dragon, and they will if we let them, but
 3 we're not going to let them, we're going to keep faith
 4 in ourselves and with the free market principles we have
 5 tested and proven sound. That's a good place for me to
 6 stop, ladies and gentlemen. *I understand you will have some questions.*

7 CHAIRMAN COX: Jim Miller has agreed to answer
 8 any questions or comments that any of you have, so I'd
 9 like to turn it back to him at this time. *time, if I could. Please, Jim.*

10 *MR. CALDER*
 11 ~~VOICE:~~ Would you comment on the ease with
 12 which the latest legislation passed in both houses?

13 *MR. MILLER*
 14 ~~CHAIRMAN COX:~~ I think the reason it was
 15 easily approved, first of all, keep in mind it was
 16 approved late but what else is new, but the reason for
 17 the relative ease with which it was approved is because
 18 we had this two year budget agreement negotiated last
 19 November, and basically the budget, when you saw in the
 20 news that the budget was being passed, that simply meant
 21 the budget resolution, the broad parameters of the
 22 budget, well those broad parameters were essentially
 23 established in those bipartisan budget negotiations last
 24 November.

25 *Now let*
 26 ~~Let~~ me tell you something. I have real
 problems with the way that some of the wording in that
 budget resolution reads and the way it's being

1 interpreted on Capitol Hill because they're nudging a
 2 few billion dollars. Why would I be concerned about a
 3 few billion dollars? The reason is -- as Senator Dirksen
 4 used to say, a billion here and a billion there, and
 5 pretty soon it adds up to real money. Do you all have
 6 any idea what a trillion dollar budget is like? I deal
 7 with a trillion dollar budget. Can you relate to a
 8 trillion dollars?

9 Imagine that you had an airplane flying the
 10 speed of sound and it was reeling out dollar bills tied
 11 end to end. You've seen on TV this commercial where
 12 these two guys are running with paper towels on their
 13 back, it's like Chariots of Fire and they're running
 14 with paper towels reeling off, a real spiffy commercial
 15 -- but imagine you had an airplane flying the speed of
 16 sound some 711 miles a hour, at sea level, I can't remember
 17 off dollar bills tied end to end, how long will that
 18 plane have to fly to reel off a trillion dollars? Keep
 19 in mind the budget's \$1.1 trillion? How long would it
 20 have to fly? How long was the Voyager up, about four
 21 days? Flying the speed of sound ought to reel off a
 22 trillion dollars in four days? Right? Wrong. You say
 23 surely four weeks, I am
 24 now and get refueled in mid-flight it
 25 the ground, four weeks ought to be able to reel off a
 trillion dollars, right? Wrong. Surely you're going to

1 tell me in four years, they'd reel off a trillion
 2 dollars flying the speed of sound, you're talking about
 3 money going out the back end of an airplane. No.

4 That plane would have to fly for 15 years to
 5 reel off a trillion dollars. That's pretty big money.
 6 We're talking about big money.

7 Imagine if you had a box with a trillion

8 dollars in it at the time Christ was born and you

9 started spending a million ^{dollars} a day out of that box -- ^{I am} not

10 counting interest -- how long would it be before you

12 emptied the box? Would it be about the time the

13 barbarians sacked Rome? No, you've got money in the

14 box. Would it be by the time of the Dark ^{Agas} Age? No,

15 money in the box. Christopher Columbus discovered

16 America. No, still got money in the box. Surely by the

17 time of our own revolutionary war? No, still money in

18 the box. What about the time of our own -- the 1860's,

19 the late unpleasantness as we call it down south. No,

20 you've still got money in the box. First World War,

21 Second World War, no, Korea, Vietnam -- there's still

22 money in the -- well, surely ^{today} the box would be empty,

23 right? No, several more years will have to pass before

24 the box will be empty. That's a lot of money.

25 In any event, we can get the deficit under
 control. It will be tough to do. The way we need to do

1 it is not to have a tax increase but to control
 2 spending. Mark Crane and I have a little piece in the
 3 Wall Street Journal editorial page this morning, you
 4 might want to take a look at it. What we found is if you
 5 analyze properly, the data on states where the governor
 6 has what is called an item reduction veto, when he can
 7 take items in the budget and reduce the amount to have
 8 then the legislative branch override him, it means a
 9 significant difference in the growth of government, *it really does*
 10 there are other things that make a significant *growth in*
 12 difference in the rate of government.

13 If you could give the President some of these
 14 powers, I think the President would find it easier to
 15 keep spending under control. Keep in mind that each
 16 year we have economic growth, we'll gain about \$50 to
 17 \$80 billion in revenue. So if we've got \$150 billion
 18 deficit which is too large, we can staircase it on down
 19 if we can keep spending under reasonable control. *That's a topic that would take another 6 hours to explore fully and I want.*
 20 *But just keep* in mind that's really what we ought to
 21 do, not taxes, spending control. Yes, sir?

22 *MR. BRINKLEY*
 23 *VOICE:* Early on you mentioned the *being a*
 24 deregulation of key industries as part of the *Administration's*
 25 *Administration* program. You also mentioned a number of *in the political picture*
 things affecting the oil and gas industry -- I was
 disappointed, as the token *pipeline* pipe lighter in this group,

1 that you did not include specifically the deregulation
2 of oil pipelines. This is something we've been working hard
3 on with several members of your administration.

4 Meetings are being held and I believe it does indeed
5 need to be on your list and needs your attention.

6 *When I release the final version of my speech, it will be in there. Yes, sir?*
MR. MILLER: Yes, sir.

7 MR. MILLER
8 VOICE: Can I have your comments on the trade
9 oil imports balance -- isn't all imports flying the face of all

10 that!
MR. MILLER: Yes, oil imports continue to rise,
11 that's right. I must tell you it's of concern to a lot
12 of us. It really is.

13
14 MR. GLANVILLE: Could the final words of your
15 speech include some statistics on how much of that trade
16 deficit is a function of petroleum imports, both products
17 and crude oil?

18 *Have we got any more editors out there? Any other questions? Comments?*
19 *I saw some other hands back there.*
MR. MILLER: I've got to get a piece of paper
out here.

20 (Laughter)

21 MR. BURKE
22 VOICE: What role, if any, do you see zero
coupon bonds -- (inaudible)

23 MR. MILLER: That's something that I think
24 really Secretary Baker ought to speak to; since you
25 don't have him here, I guess you won't have an answer to

CHAIRMAN COX: Thank you, Mr. Hesse, who is delighted and honored to have had you. You were great to come and take time out of your schedule.

MR. HESSE: My pleasure.

CHAIRMAN COX: Thank you very much.

(Applause)

69

1 that. We've talked about that and other possibilities.

2 Those kinds of discussions go on regularly within the

3 Administration, but we don't have any plans right now.

4 *Let me tell you how I appreciate a chance to visit with you. You are extraordinarily important to this nation and everything depends on energy and petroleum.*

5 CHAIRMAN COX: We're also honored to have

6 Martha Hesse, who is Chairman of the Federal Energy

7 Regulatory Commission. Many of you have known her not

8 only in that role these past few years but prior to that

9 when she was in the Department of Energy and many of you

10 know that she did a terrific job in her position as

11 Secretary for Management and Administration ^{at} the

12 Department, so much so that she won ^{the} Secretary's

13 ^{coveted} award, which is the highest recognition and

14 award given for outstanding achievement in the

15 Department of Energy. She's continued her role at FERC

16 and has done an outstanding job. We're delighted to

17 have her at this time. ^{Martha.}

18 MS. HESSE: I'm delighted to be here too and

19 I'm not going to talk about oil, I'm going to talk about

20 *I am indeed pleased and honored to be here today.*

21 gas. I hope you will find my remarks useful in gaining

22 some perspective on what the Commission is about these

23 days concerning natural gas.

24 Our principal effort regarding natural gas is

25 to facilitate moving the gas from the wellhead to the

burner tip in accord with the needs of the seller and

1 the purchaser. We all know that there is an ample
2 supply of gas at the well head and we are seeing renewed
3 confidence in that supply reflected in the start of a
4 healthy growth in the demand for gas.

5 *And* ~~in~~ a recent study by the Interstate *Natural* ~~National~~
6 Gas Association of America, ~~it~~ showed that total
7 deliveries were up by 14 percent last year, and it's the
8 first increase in deliveries to the market in a number
9 of years.

10 *The* ~~While the~~ Commission's main objective is
11 assuring that these expanding markets for natural gas
12 have ample opportunities for delivery so that purchasers
13 have real options among suppliers. Increased options is
14 clearly good *for* ~~se~~ consumers but I want to emphasize today
15 that producers are also among the prime beneficiaries of
16 the Commission's effort to enhance access to supplies.

17
18 We fully expect that increased access to
19 natural gas will result in greater reliance on a clean,
20 abundant and domestic fuel. Moreover, more direct
21 access by purchasers to the wellhead will also more
22 accurately and quickly signal the needs of the
23 marketplace. This will allow the rate of production to
24 more closely track the rate of use to avoid sharp swings
25 between surplus and scarce supply.

1 With the repeal of the Fuel Use Act last year,
2 I think the nation threw off the last vestage of the ten
3 year old fear about the reliability of the gas supply.
4 Now we are ushering in a new era of reliance on gas.
5 New industries are emerging that are choosing to be
6 fueled by natural gas. *Among these are*
7 field. This past March, the Commission issued
8 rulemaking proceedings to foster the development of
9 nontraditional electric generating capacity. You may
10 say so what does that mean to me in the oil and gas
12 business?

13 Although our rulemakings do not favor any
14 particular fuel for these new, nontraditional generation
15 facilities, they are intended to assure that wise and
16 timely investment decisions are made so that whatever
17 fuel mix evolves, it is the one that offers the best
18 prospects for low cost, reliable electric *power* supplies for
19 consumers.

20 *But while*
21 *while* it's not our role to mandate the choice
22 of any particular fuel for these nontraditional
23 electricity generators, I can certainly see that these
24 new projects do present a thriving, new market for
25 promoting natural gas use. Indeed, Virginia Power
recently conducted a bid for new capacity. I understand
that it has received firm bids for eight times the

1 capacity needed and that roughly one-third of those bids
2 were for gas-fired units.

3 In addition to that, more than 40 percent of
4 the bids were from these new, nontraditional electric
5 generating companies that we call independent power
6 producers. So there is a new market for natural gas.

7 INGA has recognized the potential presented by
8 these rapidly emerging markets and has formed a separate
9 organization to advance the use of natural gas for
10 electric power generation, particularly for cogenerators
11 and independent power producers. The name of this group
12 is the Natural Gas Alliance for the Generation of
13 Electricity, and it's targeting producers as well as
14 pipelines and others interested in promoting natural gas
15 for those new generation facilities.

16 I, for one, welcome the gas industry's
17 interest and efforts to avoid allowing barriers to
18 impede the development of these new projects. For
19 natural gas to reach its full potential as a fuel of
20 choice for these projects, producers and pipelines need
21 to offer innovative service options responsive to these
22 users' needs.

23 Thus, I fully expect that tapping this new
24 market for gas will also further our goals, the
25

Commission's

1 ~~Commission's~~ goals in fostering more flexible and market
2 responsive services.

3 Indeed, we are already seeing these electric
4 generation developers learning to shop for gas supplies
5 and put together transportation deals. They are making
6 the marketing and deliver systems work for them. In
7 fact, many of these projects are winning financial
8 backing by having long term gas supply contracts that
9 demonstrate economic viability for the project. They
10 are also learning to aggregate their own supply, relying
12 on a mix of long term, spot and storage gas. These
13 ventures really are blazing the trail, if you will, that
14 increasing numbers of users will follow.

15 We are continuing to press pipelines to commit
16 to nondiscriminatory transportation by accepting blanket
17 certificates under the Natural Gas Act, and the
18 Commission is committed, absolutely committed, to
19 achieving a nationwide, open access, transportation
20 system that augments but does not replace the pipeline's
21 merchant role. Once the pipeline accepts a blanket
22 certificate, which most of you know, the pipeline may
23 not cease transporting on an open access basis unless it
24 receives permission from the Commission to abandon that
25 service. Thus, acceptance by a pipeline of a blanket
certificate assures the pipeline the authority to act

1 quickly and flexibly to respond to the needs of the
2 marketplace, but at the same time, that certificate also
3 assures gas shippers that the service will be available
4 as long as capacity is available. The pipeline will not
5 be able to suddenly shutoff transportation and require
6 shippers to purchase the pipeline system supply.

7 We have reached a consensus on the Commission,
8 even though the number dwindles on a daily basis, those
9 of us who are still here still have a consensus that
10 pipelines should be given every encouragement to accept
11 blanket open access certificates. I think the
12 commitment by the Commission has been prevailing. We've
13 made significant progress over the past year in opening
14 up access to transportation. According to a study by *also*
15 INGA 50 percent of the gas that moved through pipelines
16 in 1987 *was* ~~were~~ shipper-owned rather than pipeline-owned
17 gas. That progress is continuing. At this point, 11 of
18 the 23 major pipelines are operating on a completely
19 open basis under a blanket certificate. These 11 *through*
20 account for more than 50 percent of the interstate ~~work~~
21 put. Most of the other pipelines are transporting under
22 a different Act, Section 311 of the NGPA, and most are
23 operating pending the issuance of a certificate by the
24 Commission.
25

1 But, there are four holdouts and I get to name
2 them all the time. They're Williams, MRT, KN Energy and
3 Florida Gas, and they are not presently participating in
4 the open access transportation market. Do you want
5 rebuttal time? Vernon?

6 MR. JONES: No, but I think *We're* ~~you're~~ making
7 progress.

8 MS. HESSE: That's music to my ears. *But despite* ~~Despite~~
9 these four, it is clear that open access transportation
10 is becoming standard operating procedure in the gas
12 industry.

13 Nondiscriminatory transportation is really
14 *the* just the beginning. We are encouraging pipelines and
15 *1* local distribution companies as well to offer a wide
16 range of services from unbundled transportation and
17 storage to bundled sales. One of our initiatives that
18 will increase service options is our capacity brokering
19 proposal. As you may know, the Commission has also
20 authorized another notice of proposed rule-making to
21 authorize shippers to broker firm capacity, that they
22 are entitled to use on a pipeline. Under the proposal,
23 anyone who is entitled on a firm basis to use capacity
24 on a pipeline may seek a certificate from the Commission
25 to broker that capacity. Thus, pipelines may sell
capacity that they are entitled to use on other

1 pipelines to other shippers and shippers may sell
2 capacity that they are entitled to use on pipelines to
3 other shippers.

4 The end result will be an important new
5 service and that is short term, firm transportation. It
6 will be made available to the market and to shippers and
7 the shippers will have an easier time getting ^{gas} ~~gas~~ from
8 the wellhead to the burner tip. A benefit is that this
9 new short term firm service that will be permitted by
10 brokering will also permit the industry to contract
12 ahead of time for both assured gas supply and assured
13 transportation at a given price. We are aware that
14 there are a number of questions and concerns that must
15 be worked out before we have a final rule, and we're
16 working on the details and ^{we} certainly appreciate all of
17 your input into the process.

18 ^{But} I think ^{that} everyone must agree that the concept
19 is an idea whose time has come. Flexibility and not
20 rigidity is necessary in the new gas marketing regime so
21 that purchasers have as many practical choices as
22 possible ^{among} ~~among~~ suppliers.

23 The last thing that I want to talk about is
24 the gas inventory charge mechanism because that's also
25 an important new component of the new gas marketing
regime.

1 The gas inventory charge will permit customers
2 to be assured a firm supply up to the volume that they
3 nominate and ~~at~~ ^{at} the same time, ~~it~~ ^{it} will give pipelines the
4 basis for restructuring their supply portfolio to meet
5 that nominated demand, while avoiding accumulating ~~paper~~ ^{take-or-pay}
6 ~~pay~~ liability to their suppliers. Our aim is to build
7 into the system of buying and selling natural gas a
8 mechanism for avoiding the kind of dislocations and
9 disincentives ~~the~~ ^{that} the industry has suffered through during
10 the 1980's. Again, allowing supply to more closely
12 track demand should allow expectations to more closely
13 track reality and vice versa.

14 Essentially to qualify for a gas inventory
15 charge, the pipeline must establish a firm price or a
16 pricing formula and customers ~~must~~ ^{must} have an opportunity
17 to freely nominate how much firm supply they want to
18 reserve at the ~~rate~~ ^{that} the pipeline establishes. The
19 general theory underlying ~~the~~ ^a gas inventory charge is
20 that if the customers are required to pay for supply on
21 a current basis, they will have an incentive to be
22 careful in nominating the level of gas supply they need
23 to provide reliable service. This should, in turn,
24 allow and enable pipelines to be more careful and more
25 accurate in contracting with producers for gas supplies

1 since they will know what their customers are willing to
2 purchase on a current basis.

3 The gas inventory charge mechanism exemplifies
4 a fundamental characteristic of the new gas marketing
5 regime that all segments of the industry will have to
6 come to grips with, and that's that increased choices
7 mean increased responsibility. Under the gas inventory
8 charge mechanism, local distribution companies must be
9 willing to decide and then to live with their decisions
10 how best to serve their customers' needs. This mechanism
11 will help create efficiency precisely because it will
12 place the responsibility for supply ~~decisions~~ *decisions* on the
13 purchaser of those supplies.

14 In conclusion, I would just like to sum up
15 that the gas industry is ~~completely~~ *completing* its metamorphosis
16 from one where very closed and heavy handed and tight
17 regulation governed the movement of gas from the
18 wellhead to the burner tip, to one where the market
19 determines the value and therefore the price of the
20 commodity, and regulation focuses on what it should
21 focus on, *and that's* correcting only imperfections in the market.
22

23 I hear sometimes that you feel bewildered and
24 beleaguered at some of our regulatory initiatives.
25 Stepping back though to see the whole picture will show,
I believe, that we are setting the stage for increased

1 reliance on natural gas and a more orderly development
2 of the resource in the future.

3 You know and I know that natural gas is a
4 clean, reliable and abundant fuel and I'm pleased to
5 report ^{that} that message is being received by the
6 marketplace. The market for gas is growing and will
7 continue to grow, and the transportation and delivery
8 systems for gas are becoming more market responsive and
9 will continue to do so. Forward looking suppliers that
10 are ready to do business in the new regime, in the new
11 order, if you will, will become the first to profit from
12 the renewed dynamism in the gas industry.
13

14 That's my monologue, do you want to ask me any
15 questions?

16 ^{MR. MACY} VOICE: Do you plan to -- ^(inaudible)

17 MS. HESSE: We haven't decided yet.

18 MR. JONES: With respect to capacity brokering
19 which is clearly the next major ^{that is} item coming down the
20 regulatory pipeline, how do you see that mechanism
21 ultimately truly serving the purposes of producers and
22 the market in the light of the probability that a
23 significant amount of pipeline capacity is going to be
24 contracted by its existing customer base -- who have an
25 option as to how they structure their requirements,
whether they ^{need to} ~~indeed~~ buy pipeline supplies through the

1 classic mechanisms or whether they switch over to
2 transported supplies? How do you see that mechanism
3 continuing over an extended period of time to serve the
4 interstate market and the supply needs and permit free
5 access of each of those markets to the other?

6 MS. HESSE: Of course each pipeline will have
7 the option of developing a separate capacity, separate
8 and unique capacity brokering proposal, so there will be
9 some differences across the country ~~involved with these~~ *among*
10 pipelines, but basically what we're trying to do is to
11 offer a new type of service to the market, and then
12 we'll see how much the market takes advantage of that
13 new service. It remains to be seen also how much supply
14 the LDCs are going to nominate, when they're going to
15 have to pay for it up front. I just don't know, and I
16 don't think any of us ~~knows~~ *know* how much pipeline supply ~~there~~
17 -- or capacity -- that the LDCs are really going to sign
18 up for. So a great deal of that capacity may in fact
19 turn back to the pipeline who will then also be able to
20 offer a new service.

21 I don't think we have any preconceived ideas
22 or preconceived goals about we think 40 percent of the
23 pipeline capacity will now be given over to capacity
24 brokering, we don't know. Our goal is to offer a new
25 service. I think that short term firm transportation is

1 a good thing and can potentially have a great deal of
2 benefit in providing more stability and consistency to
3 the gas market.

4 As with most things, we'd really like to push
5 those decisions back to the industry and to the
6 participants in the industry and ^{will} say, here is a new
7 service, use it if you want to and if you don't want to,
8 then that's your business decision.

9 MR. LAY: First to clarify the record, we do
10 have two of the 11 pipelines ^{part of the} that are open to and from
11 the certificates even though ⁱⁿ gas is not, but more
12 importantly your recent order on the gas inventory
13 charge, which is a very interesting order ⁱⁿ for a lot of
14 ^{ways as} reasons you've said today but one of the more
15 interesting ways is that you did find the California
16 market to be ^{workably} competitive, thus you're going to pretty
17 much ^{let the market} let the market set what the inventory charge ought
18 to be. ^{It is between partners.}

19 That, of course, is quite a departure
20 regulatorywise over the last 50 years. It's basically
21 throwing the cost-based regulation out the window from
22 my standpoint is probably a good thing ^{when} to throw ^{which} out ^{it.} the
23 window. ^{But}
24 I ask you in fact if you could sustain that
25 and if you find many other markets are workably

1 competitive. Is there ^a ~~any~~ chance, in light of the
2 earlier question about the petroleum product pipelines,
3 that eventually maybe gas pipelines could also be
4 deregulated?

5 MS. HESSE: Certainly that would be my hope
6 but as you know, only Congress can deregulate and it has
7 shown absolutely no interest or inclination to do so.
8 We are very sincerely and seriously interested in moving
9 away from cost-based regulation to market-based pricing.
10 The order that Ken was referring to was the
11 Transwestern Pipeline Gas Inventory Charge which the
12 Commission approved ^{in the} last month or so. We approved the
13 gas inventory charge without a price cap. We decided ^{that}
14 the Southern California market clearly is workably
15 competitive, that Southern California Gas, for example,
16 is a huge organization, can clearly make it's own
17 decisions, should make its own decisions and then should
18 be responsible for those without ^{sort of a} the federal nanny in
19 the background trying to firm ^{up} everything.

21 We will continue as we go through hearings and
22 also through just general review of orders to move the
23 gas industry to more competitive basis based on market
24 pricing and not cost-based pricing. We think ^{that} that is
25 sustainable in court. The D.C. Circuit Court of Appeals
has given us some guidelines about if we want to prove a

1 market to be workably competitive, what we have to prove
 2 *So* and that's *of course* exactly what we're doing, and I think that we
 3 will see the day -- I would not be surprised if in the
 4 next *the next* say decade that ~~the~~ pipelines would be deregulated.

5 MR. TRUE: I'm Dave True. When do you think
 6 the Commission might hand down a decision on the new
 7 major pipeline into the California -- (Inaudible).

8 MS. HESSE: I have a very strong interest in
 9 bringing interstate gas to the California market. If I
 10 say anymore than that, I make my lawyers very nervous.
 12 There are two projects that are pending in hearing right
 13 now, Kern River and ~~Mohavi~~ *Mojave* ~~(ph)~~ and there is a third,
 14 *WyCol,* ~~WyLaw~~ ~~(ph)~~ which has filed under the optional program.
 15 What we did do was combine the three so there is a
 16 single environmental impact statement and we will be
 17 reviewing that combination sometime by the end of this
 18 year.

19 I would also suggest that you look -- we're
 20 going to have a meeting next Wednesday and let you look
 21 at that agenda. *Well, if there are no other questions, thank you for inviting me.*

22 CHAIRMAN COX: Thank you, Ms. Hesse. We have *again, Martha. We're delighted you could be here and share your time with us. We really do appreciate it. Thank you very much for coming.*
 23 two quick administrative matters, John Hall, *who is* Chairman of
 24 the Finance Committee could not be here and on his
 25 behalf, I'll just report that you may recall that at our
 October meeting we approved a calendar year 1988 budget

1 in the amount of \$1,750,000 ^{at} and the same time the
 2 Finance Committee expressed the desire that there be no
 3 change in member contributions from the previous year's
 4 level. The final decision on such matters is made at
 5 this meeting and it is the recommendation of the Finance
 6 Committee that we do in fact hold individual member
 7 contributions for the period July 1, 1988 through
 8 June 30, 1989 at the previous year's level with such
 9 additional funds as may be necessary taken from the
 10 Council's Contingency Fund.

12 On behalf of John Hall and the Finance
 13 Committee, I move this recommendation be adopted.

14 VOICE: Second.

15 CHAIRMAN COX: Any questions or comments?

16 (No response.)

17 CHAIRMAN COX: All in favor, say aye.

18 (A chorus of ayes.)

19 CHAIRMAN COX: ^{Thank you.} Opposed?

20 (No response.)

21 CHAIRMAN COX: Collis Chandler has served as
 22 the Chairman of the Nominating Committee and I'd like to
 23 call on Collis ^{Thank you, Ed.} now for his report.

24 MR. CHANDLER: The Nominating Committee of the
 25 National Petroleum Council met this morning and agreed
 on the following nominations for ^{officers,} ~~officers~~ Chairman and

1 members of the Agenda and Appointment Committees. For
2 National Petroleum Council Chairman, Edwin L. Cox; for
3 Vice Chairman, Lod Cook; for the Agenda Committee, the
4 nominations are as follows: Bill Carl, John Carver,
5 myself, ^{Hubie} ~~Ec~~ Clark, George Keller, Jim ^{Ketelson} ~~Kettleson~~, Frank
6 McPherson, Dick Morrow, Bob Mosbacher, Larry Rawl, and
7 Chick Williamson serving as Chairman. For the
8 Appointment Committee: Jack Allen, David Dorn, Jim
9 Emison, John Hall, Fred Hamilton, John ^{Hahn} ~~Hahn~~, A.V. Jones,
10 Bob McClements, Don Simmons, Joe Williams and Fred
11 Hartley serving as Chairman.

12
13 Mr. Chairman, I move the adoption of the
14 Nominating Committee recommendations.

15 VOICE: Second, Mr. Chairman.

16 CHAIRMAN COX: I have a motion made and
17 seconded, are there any other nominations for any of the
18 positions?

19 (No response.)

20 CHAIRMAN COX: If not, I think it would be
21 proper to take them all as a group rather than separate,
22 we have the motion and the second, all in favor, say
23 aye.

24 (A chorus of ayes.)

25 CHAIRMAN COX: Opposed?

(No response.)

1 CHAIRMAN COX: Thank you, Collis, and the
 2 committee again for ~~the~~ ^{this} honor of ~~service~~ ^{to serve you.} I hope
 3 ^{that I can} perform as you wish me to.

4 This is an opportunity to bring any other
 5 business before the Council before we adjourn. We have
 6 tried to improve the agenda this time with the addition
 7 of Jim Miller and Martha Hesse as well as the Secretary
 8 and we're delighted they could join us.

9 Any suggestions or improvements ^{that} you have for
 10 our committee format, we would certainly welcome them.
 11 We tentatively are scheduling the next meeting for
 12 December 13, the morning of the 13th with the reception
 13 the evening before on the 12th of December, subject ^{of course} ~~of~~
 14 ~~course~~ ^{but} to the Secretary's final approval, ^{his} ~~see that's~~
 15 tentative at this time. When we get ^{his} ~~a~~ final signoff we
 16 will advise you of the exact time and place.

17
 18 Are there any other subjects anybody should
 19 like to bring before the Council at this time?

20 (No response.)

21 CHAIRMAN COX: If not, thank you all for your
 22 participation. The meeting is adjourned.

23 (The meeting was adjourned at 11:02 a.m.)

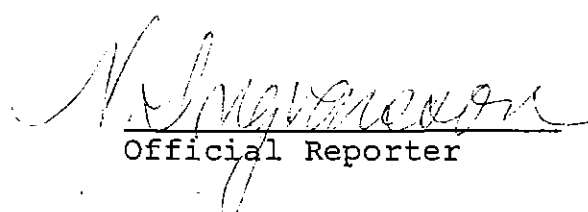
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3 REPORTER'S CERTIFICATE
4

5 This is to certify that the attached proceedings
6 before U.S. DEPT. OF ENERGY
7 in the matter of: NATIONAL PETROLEUM COUNCIL
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9
10
11 were held as herein appears and that this is the original
12 transcript thereof for the file of the Department
13 of Commission.
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18 Official Reporter
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20 DATE: JUNE 9, 1988
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